

23 May 1961

MEMORANDUM TO: Chief, TISD

SUBJECT: Addition to Trip Report of [REDACTED]

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1. Visit to [REDACTED]

The Electronic Rectifier was tested per testing agreements as shown in the contract.

a. Rectification of panoramic photography and enlarged 4X was not completed due to circuitry problems.

b. 9 x 9 printed out at 1X, with 0° tilt, and met the specifications of one thousandth of an inch measurement between any two points. Error observed was .005 inches plus or minus.

c. The 4X enlargement of the high contrast resolution chart was cancelled out; however, 36 l/mm vice 40 l/mm was the best performance achieved. Testing was stopped on this piece of equipment, which is Serial No. 1, due to the fact that all of the equipment will be taken apart and rebuilt prior to shipment. Therefore, testing should be performed after rebuilding has been accomplished. This was agreed by [REDACTED] and the undersigned. Serial No. 2 will be ready for shipment sometime in June. This piece of equipment should be completely tested, in accordance with the contract tests, prior to shipment.

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2. Recommendations

A very important item which was ascertained about this piece of equipment is as follows:

a. It is recommended that a screen-filtered room be built for each complete rectifier, either 11 ft. x 15 ft., or 10 ft. x 18 ft. The room should have either double-walled copper screening, bonded and grounded from four points, or the wallboard type of material as seen at [REDACTED] should be used. This is due to the fact that the rectifier is sensitive to frequencies from 100 cycles to 10 megacycles.

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b. In addition, it is recommended that three filters be attached to the three leads entering the screen room on the incoming power line; that the filters be so attached that one end is outside the screen room and the other end inside the screen room. The filter

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recommended is the Quietone, P1 filter, type NF-R013 125 AC, 50 Amps, 0 to 400 cycles. The fuse box should be inside the screen room. All power used inside the screen room in addition to that needed for the rectifier should come from this fuse box, i.e., power for lights and/or receptacles for attaching a soldering gun.

c. The instrument is very sensitive to inductive circuitry such as relays, also to high voltage arc such as from an arc welder. The filters will negate the possibility of any type of arc impulse entering the room, and the screen room will filter all other impulses.

d. It is further recommended that a contract be let to build two new rectifier computer racks which go in the right stack of the control console. If these are built, using the knowledge that [ ] now has, STATINTL it would be possible to rectify any photography in a one-step operation, i.e., remove tilt, tip, swing, earth's curvature and print out this rectification to any map projection. In addition, this would give the capability of Patch rectifying. The estimated cost of such an effort is [ ] per instrument. This would raise the capability of the instrument from that of the [ ] rectifiers. STATINTL

e. At present, the [ ] electronic rectifier requires a second pass with resulting loss of resolution, in order to perform any one of the items listed above. It is, therefore, recommended again that serious consideration be given to performing this rather simple modification. The equipment can be delivered and used and when the modification is completed, they then can be installed.

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